

REPORT

Transport Assessment

Dapper's Lane, Angmering, West Sussex

Client: Frontier Estates Limited

Reference: T&PPB7681R001D0.1

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1 INTRODUCTION

1.1 Preface

- 1.1.1 Royal HaskoningDHV UK Limited has been instructed by Frontier Estates to consider the highways and transportation implications of providing a proposed residential Care Home development and care apartments (class C2) facility on land north of Water Lane, Angmering in West Sussex.
- 1.1.2 The site is occupied by a residential property called Broadlees which is surrounded by grazing land and scrub.
- 1.1.3 The wider development seeks to demolish Broadlees and provide 29 care apartments and a 70 bed Care Home (use class C2), parking, access, footpath, landscaping and other associated works.
- 1.1.4 Planning permission was previously obtained at the site for 53 x care apartments (A/27/16/PL) on 9th February 2017 within four buildings.
- 1.1.5 The current application seeks to replace one of the care apartment buildings with a 70 bed Care Home. The remainder of the site is proposed to be developed in accordance with the extant consent.
- 1.1.6 West Sussex County Council provides guidance on the production of Transport Assessments (TA) and Travel Plans (TP) for new developments within the Development Travel Plan Policy document. The document sets thresholds for the requirement of a TA/TP, with care homes of greater than 50 beds requiring a TA/TP.
- 1.1.7 The guidance states:
- "The Travel Plan must set targets for trip rate reduction and sustainable mode share for the development which must interrelate with the travel demand and impact analysis in the TA."*
- 1.1.8 This Transport Assessment (TA) considers the highways and transportation issues relevant to the proposed development. In respect of transport impact National Planning Policy Framework (NPPF) provides guidance for local authorities when determining planning applications. Paragraph 32 bullet point three states that '*development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe*'.
- 1.1.9 A review of the emerging Local Plan indicates a significant land allocation to the east, referenced as SD9. That allocation is the subject of a current application, due to be determined in August 2018.
- 1.1.10 The wider site encompasses an area of approximately 1.3 hectares, comprising an existing property known as Broadlees, outbuildings, densely vegetated area and open paddock land. The application site extends to 0.7 hectares.

The report will consider the proposed development in the context of national, regional and local planning policy and guidance.

1.2 Existing Site

- 1.2.1 The Site is located approximately 500 metres north of Angmering Village Centre and approximately 2km north of Angmering Rail Station.
- 1.2.2 The site is situated on the edge of an established residential area. The site is located within a short walk distance of a number of services and amenities on Angmering High Street. These amenities include a small co-op food store, hairdressers, butchers, pharmacy, library and Post Office.
- 1.2.3 A site location plan is presented in **Figure 1.1**.

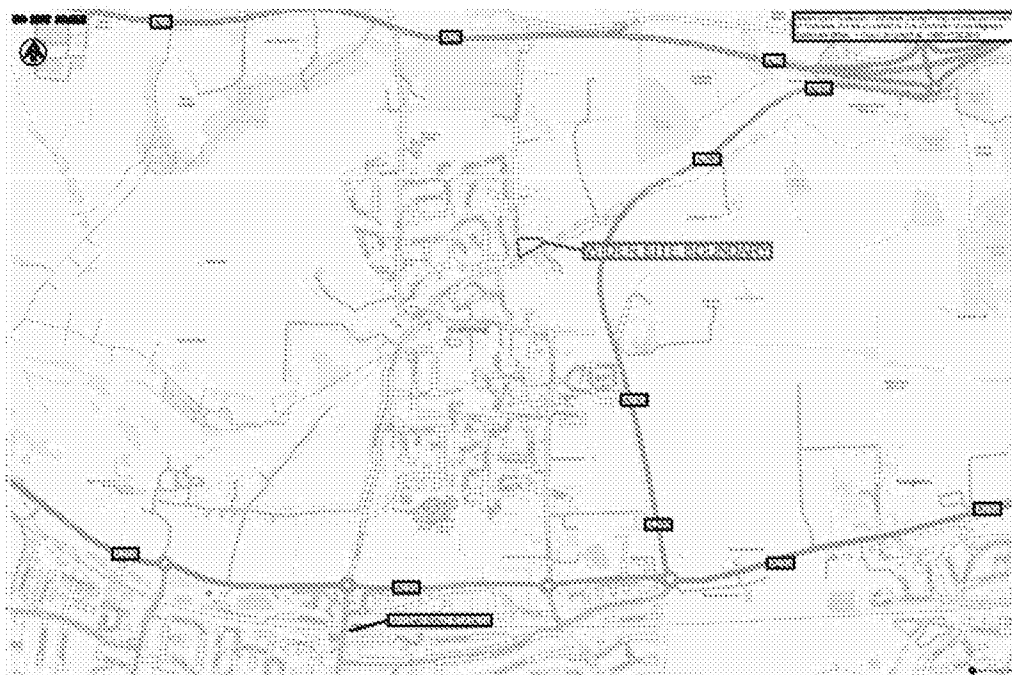


Figure 1.1: Site Location Plan

1.3 Scope of Assessment

- 1.3.1 This Transport Assessment will provide detailed consideration of the issues summarised above and will also consider an assessment of the site's accessibility by sustainable modes, and a review of the Site's traffic generation, with consideration of the potential generation of the Site's existing use.
- 1.3.2 This statement is divided into 8 sections, summarised as follows.
- Section 2 will provide a summary of the Site's accessibility by non-car modes of travel.
 - Section 3 will provide a description of the existing highway layout in the vicinity of the development site.
 - Section 4 will summarise the proposed development scheme to include proposed off-site mitigation measures.

- Section 5 will quantify the development site's trip generation, by means of a multi modal assessment generated from surveys undertaken at comparable sites, utilising the TRICS database. This section will outline the likely net change in traffic movements to and from the site as a result of the proposal when compared to the consented development (A/27/16/PL).
- Section 6 will provide an overview of the national, regional and local planning policy relevant to the proposed development.
- Section 7 will provide an outline of the Delivery & Servicing arrangements for the site; and
- Finally, Section 8 will provide a summary and conclusion to this document.

2 SITE ACCESSABILITY BY NON-CAR MODES OF TRAVEL

2.1 Overview

- 2.1.1 The site is located approximately 600 metres (m) north-east of Angmering Village Centre and approximately 2 km north of Angmering Station.
- 2.1.2 Continuous footways are provided along Water Lane to Angmering Station, passing through Angmering Village Centre.
- 2.1.3 The nearest bus stop to the site is located on Merryfield Crescent to the north of the site. The bus stop is a 160 m walk distance from the Site and provides access to a single bus service.
- 2.1.4 This section considers current opportunities to access the site by means of travel, other than the private car. Travel opportunities on foot, and by cycle, bus, and train are considered in the context of the site.

2.2 Walking

- 2.2.1 A walking distance of 2km is the maximum desirable commuting distance stated by the Chartered Institute of Highways and Transportation (CIHT).
- 2.2.2 The Chartered Institute of Highways and Transportation's (CIHT's) publication '*Providing for Journeys on Foot*' (2000) states that the average length of a walk journey is 1 kilometre. It further recommends a preferred maximum walking distance of 2 kilometres for commuting journeys and 1.2 kilometres for other journey destinations. The site can therefore be considered to be within a reasonable walking distance of the variety of shops, service and amenities located within Angmering Village Centre.
- 2.2.3 A distance of 1.3 miles (2.0 kilometres) has been considered a distance many people could substitute car trips for trips on foot. The site is located within this distance of much of Angmering, Angmering rail station and a significant amount of residential development so there are no barriers to residents, employees and visitors accessing the site on foot.
- 2.2.4 There are footways with street lighting provided along Water Lane. The footway is provided from the Dapper's Lane/Water Lane junction, providing a continuous route into the village centre and to nearby bus stops. Footways are not present along Dapper's Lane in the vicinity of the site; however, Section 4 refers to the approved improvements which will be implemented under the wider permission. Should a section of footway be provided along Dapper's Lane between the site access and Water Lane it would provide a continuous pedestrian link to Angmering village centre and nearby bus stops.
- 2.2.5 Angmering Station is accessible on foot from the site via Angmering Village Centre. There is a continuous footpath linking Angmering Village Centre to Angmering Station. A pedestrian footbridge is located between Station Road northbound and southbound.

- 2.2.6 No formal pedestrian access is currently provided to the application site and no footway currently exists along Dapper's Lane. As such pedestrians accessing the existing site must walk within the carriageway along Dapper's Lane, from the footways located on Water Lane, and access the site via the existing vehicular access. The implementation of approved pedestrian footway improvements will be implemented under the wider permission.
- 2.2.7 A number of Public Rights of Way (PRoW) exist within the vicinity of the site. Footpath 2151_1 runs approximately 110m to the north of the site in a westerly direction along Merryfield Crescent and Ferndale Walk. The footpath connects to footways located on Greenacres Ring, from which the wider pedestrian network can be accessed, providing a pedestrian route towards the centre of Angmering. In addition, the footpath provides access to the bus stops located on Merryfield Crescent and Beech View.
- 2.2.8 In addition, footpath 2149 runs adjacent to the eastern boundary of the site from Water Lane. The footpath provides a route north towards the Angmering Motorsports Centre, before heading east and connecting with Dapper's Lane in the vicinity of Oak Tree Farm.
- 2.2.9 An outline application with some matters reserved for the development of up to 525 residential dwellings (Class C3), 3 ha (gross) of employment land (Class B1), public open space, play areas, access, associated infrastructure and landscaping within land north of Water Lane (application reference A/40/18/OUT).
- 2.2.10 The associated pedestrian/cycle infrastructure improvements include:
- The provision of a new 3m wide footway/cycleway along Water Lane to connect the site access with Dapper's Lane, including provision of a pedestrian and cycle refuge island crossing of Water Lane to connect to the proposed development south of Water Lane; and
 - The provision of a new 1.5m wide footway on the western side of Dapper's Lane to connect the site access to Merryfield Crescent and Water Lane and to integrate with the improvements being delivered by committed developments on Dapper's Lane.
- 2.2.11 The approved improvements associated with the wider consented permission (A/27/16/PL) include a new footway along Dapper's Lane connecting the site to existing pedestrian facilities at Water Lane. This ensures a continuous pedestrian link between the site and village centre and bus stops.
- 2.2.12 A summary of the local facilities within a walking distance of the site is provided in **Table 2.1**.

Table 2.1: Local Facilities within a Walking Distance

Facility	Location	Walk Distance
Co-operative Supermarket	Water Lane	700m
Angmering Manor Hotel	High Street	550m
Restaurants	Water Lane	500m
Post Office	Water Lane	550m
Angmering Library	Arundel Road	650m
Shops	Arundel Road	650m
Pharmacy	Station Road	750m
Angmering Medical Centre	Station Road	750m

- 2.2.13 West Sussex County Council (WSCC) provides links to useful walking and cycling maps and also to an interactive cycle journey planner which provides details of cycling route options across West Sussex. (<https://www.westsussex.gov.uk/leisure-recreation-and-community/walking-horse-riding-and-cycling/cycling-routes-and-maps/>)
- 2.2.14 An isochrone plan is presented within **Appendix A** which indicates the amenities that can be accessed within 1km and 2km walking distance of the site.

2.3 Cycle

- 2.3.1 A number of local facilities are within a cyclable distance of the proposed development. To the south west, Angmering Village Centre is within 600m, and provides access to shops, restaurants and other amenities.
- 2.3.2 There are no dedicated cycle facilities in the immediate area; however, there are no barriers to cycling to the site either. A segregated cycle path is present on a small section of Station Road; this can be seen from **Figure 2.1**. A distance of 3.1 miles (5.0 kilometres) is typically considered a distance many people could substitute car trips for cycle trips. Within this distance of the site is Angmering, East Preston, Rustington and Ferring and several residential areas.



Figure 2.1: Cycle Path Station Road

- 2.3.3 An isochrone plan is presented within **Appendix B** which indicates the amenities that can be accessed within 3km and 5km cycle distance of the site.

2.4 Bus

- 2.4.1 Local bus services can be accessed from Merryfield Crescent located approximately 160 meters north from the site, which is within the widely accepted preferred limit of 400 metres walk distance as cited in the CHIT guidance document, *"Planning for Walking"*, April 2015. A summary of the services from these bus stops is presented in **Table 2.2**.

Table 2.2: Local Bus Services

Service	Operator	Route	Direction	First Bus	Last Bus	Frequency				
						AM Peak	Inter Peak	PM Peak	Sat	Sun
9	Stagecoach	Shoreham – Southlands Hospital – Shoreham Rail Station – Mash Barn – Lancing Rail Station – Western Road – Worthing Hospital – Worthing Marine Parade – Goring Road – The Causeway – Maybridge –	Shoreham	08:04	19:18	1ph	1ph	1ph	1ph	1ph
		Roundstone Garden Centre – Angmering Chantryfield Road – Angmering Village Green – Angmering	Arundel	07:03	19:04	1ph	1ph	1ph	1ph	1ph

		Rail Station – Rustington Shops – Beaumont Park Shops – Littlehampton Anchor Springs – Wick Street Post Office – Arundel Riverbank – Arundel Jarvis Road								
700 Coast- liner	Stagecoach	Wick – Littlehampton – Worthing – Shoreham – Brighton	Brighton	06:07	22:49	4ph	6ph	6ph	6ph	3ph
			Wick	05:52	22:10	4ph	6ph	6ph	6ph	3ph

2.4.2 The number 9 bus service, operated by Stagecoach, provides an hourly service between the Holmbush Centre in Shoreham and Littlehampton via Angmering station.

2.4.3 The Stagecoach 700 Coastliner service stops on the B1240 Worthing Road approximately 2km to the south of the site (close to Angmering rail station) and provides up to 6 services per hour in each direction between Brighton and Southsea including destinations such as Worthing, Shoreham, Littlehampton, Arundel, Bognor Regis, Chichester, Emsworth and Portsmouth.

2.5 Rail

2.5.1 Angmering station is located approximately 2km to the south of the site and is located on the West Coastway line, which also provides direct services to London and Southampton. There are typically two direct services per hour during peak periods to London Victoria, three per hour to Brighton and two per hour to Portsmouth.

2.5.2 The bus stops adjacent to the station provide connections to the site via the hourly 9 bus service.

2.5.3 Services from Angmering Station are operated by Southern, providing direct links to Brighton, London Victoria, Portsmouth Harbour, Southampton Central and Littlehampton. A summary of rail services from Angmering Station is presented in **Table 2.3**.

Table 2.3: Summary of Rail Services from Angmering Station

Destination	First Train	Last Train	Frequency					Journey Time
			AM Peak	Inter Peak	PM Peak	Sat	Sun	
Brighton	05:10	23:50	4ph	2ph	2ph	2ph	2ph	34mins
London Victoria	05:30	22:23	2ph	2ph	3ph	2ph	1ph	95mins
Portsmouth Harbour	07:07	23:40	2ph	1ph	1ph	1ph	0ph	80mins
Southampton Central	05:49	21:07	1ph	1ph	1ph	1ph	1ph	75mins
Littlehampton	06:33	23:21	1ph	2ph	3ph	2ph	2ph	10mins

2.6 2011 Census Data Local Travel Patterns

- 2.6.1 A review of 2011 Census data for the Workplace by Usual Residence by Method of Travel to Work has been undertaken for the Workplace Zone E01031386, to which the Site is situated. The Census data has been analysed to determine the likely modal split for future staff travelling to the development. The location of Workplace Zone E01031386 is presented in **Figure 2.2**.

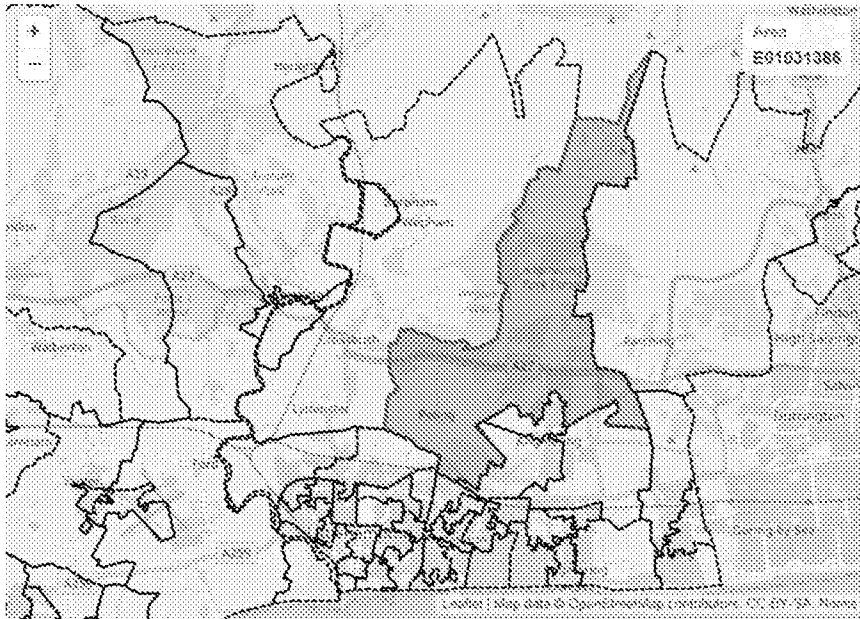


Figure 2.2: Workplace Zone E01031386

- 2.6.2 The resulting modal split for the Workplace Zone E01031386 can be seen in **Table 2.4**.

Table 2.4: 2011 Census Data - Workplace by Usual Residence by Method of Travel to Work for Workplace Zone E01031386

Method of travel to work	Number of People	Percentage
Underground, metro, light rail or tram	1	0.1%
Train	26	3.9%
Bus, minibus or coach	16	2.4%
Taxi	5	0.7%
Motorcycle, scooter or moped	6	0.9%
Driving a car or van	508	75.5%
Passenger in a car or van	30	4.5%
Bicycle	21	3.5%
On foot	57	8.5%
Other method of travel to work	3	0.4%

- 2.6.3 The 2011 Census data indicates that the main mode of travel to the development is likely to be undertaken by car, with car driver representing 75.5% of all travel and car passenger 4.5%. Active travel modes (walking and cycling) also contribute to a large percentage of the travel demand, representing a total of 12% of all journeys to work.

2.7 Summary

- 2.7.1 The site is well located in relation to the ability to walk and cycle from the Site to the town centre. There are continuous footways from Water Lane, to the south of the site leading towards Angmering Village. This route provides access to a number of shops, a pharmacy, cafes and restaurants. This is reflected in the 2011 Census data which indicates that active travel modes (walking and cycling) represent a total of 12% of all journeys to work.
- 2.7.2 A number of local facilities are also within a cyclable distance of the proposed development. To the south west, Angmering Village Centre is within a 600m cycle from the site, and provides access to shops, restaurants and a range of other facilities. Angmering Station is located approximately 2km cycle of the Site. Cycle paths are available on a short section of Station Road, leading to Angmering Station.
- 2.7.3 An hourly bus services providing links to Littlehampton and Shoreham is located within a 160m walk distance from the site. Angmering Station is located 2km walk distance south of the site, providing regular services to Brighton, London Victoria, Portsmouth Harbour, Southampton Central and Littlehampton. In summary, the site is accessible to non-car modes.

3 LOCAL HIGHWAY NETWORK

3.1 Site Location and Existing Access

- 3.1.1 The wider site is occupied by a residential property called Broadlees which is surrounded by grazing land and scrub, in addition to several outbuildings and sheds. The existing site access is taken from Dapper's Lane which runs on a north / south alignment bordering the site to the west. The site access is situated approximately 100 metres to the north of the junction of Dapper's Lane/Water Lane. The village centre and supermarket are located approximately 600m from the site.
- 3.1.2 There are currently no footways along Dapper's Lane in the vicinity of the site, however, it is envisaged that the pedestrian infrastructure improvements in relation to the wider permission would be implemented under the extant consent (A/27/16/PL). The section of footway to be provided along Dapper's Lane between the site access and Water Lane will provide a continuous pedestrian link to Angmering village centre and nearby bus stops.

3.2 Road Network

Dapper's Lane

- 3.2.1 Dapper's Lane is a two-way, single carriageway road, generally 6.0 metres wide and subject to a 30 mph speed limit in the vicinity of the site.
- 3.2.2 Approximately 100m south of the Broadlees access, Dapper's Lane forms a priority controlled junction with Water Lane, which is the main vehicular route through Angmering, linking with the A280 to the northeast and the A259 to the south. Dapper's Lane is a single carriageway road, generally 6m wide and subject to a 30 mph speed limit in the vicinity of the site.
- 3.2.3 At present, no footways are currently provided along Dapper's Lane in the vicinity of site. Pedestrians travelling along Dapper's Lane are required to walk along the carriageway until they reach footways located on Water Lane or Merryfield Crescent. The section of footway to be provided along Dapper's Lane will be implemented in relation to the extant consent (A/27/16/PL).
- 3.2.4 Parking along Dapper's Lane is unrestricted; however, there is no evidence of on-street parking occurring. This is in part due to the relatively narrow width of the carriageway and due to the high level of parking provision within adjacent residential development along Dapper's Lane.

Water Lane

- 3.2.5 Water Lane is a two-way, single carriageway road, generally 7.0 metres wide and subject to a 30 mph speed limit in the vicinity of the site. At a distance of approximately 200 metres to the east of the junction with Dapper's Lane, the registered speed limit changes from 30 mph to 60mph.
- 3.2.6 In order to control vehicle speeds on the approach to Angmering from the east, there are several priority narrowing points along Water Lane. These give priority to eastbound traffic leaving Angmering meaning westbound traffic entering has to give-way thus reducing vehicle speeds into the village.

- 3.2.7 Footways with street lighting are provided along Water Lane from the Dapper's Lane junction providing a continuous route into the village centre and to nearby bus stops.

3.3 Review of Collision Data

- 3.3.1 Personal Injury Collisions (PICs) data has been obtained from the CrashMap website (www.crashmap.co.uk) for the study area defined in **Appendix C**. The study area incorporates Dapper's Lane north and south of the site, the junction between Dapper's Lane and Water Lane, and Water Lane between the junction with Cumberland Road and the junction with Oval Raceway. The most recent five year period of data has been obtained and is analysed within this section.

- 3.3.2 A total of five PICs were recorded within the study area of which one was serious and four were slight. No fatal injuries were recorded within the study area.

- 3.3.3 A summary of the recorded PICs is provided within **Table 3.1**.

Table 3.1: Summary of PICs Clusters

Cluster Location	Accident Severity			Total
	Slight	Serious	Fatal	
Dapper's Lane	0	0	0	0
Water Lane	4	0	0	4
Junction between Dapper's Lane and Water Lane	0	1	0	1
Total	4	1	0	5

- 3.3.4 An area plot of the study area is contained within **Appendix C**. The PIC plot demonstrates that there have been no recorded PIC's at the existing site access. A further review indicates that no PICs occurred on Dapper's Lane.

- 3.3.5 The recorded PICs can be summarised as follows:

- Five out of five PICs occurred during the hours of daylight.
- Three out of five PICs occurred when the road conditions were wet / damp.
- One out of five PICs involved a cyclist.
- Two out of five PICs involved a car pulling out of a private driveway.
- One out of five PICs occurred in close proximity to a traffic calming feature on Water Lane.

- 3.3.6 One serious PIC was recorded at the junction between Dapper's Lane and Water Lane. The serious PIC occurred in 2014 and occurred when the road conditions were wet. The collision involved two cars colliding and hitting the kerb. A passenger within one of the cars was seriously injured.

- 3.3.7 It can therefore be concluded that there is no common cause for the collisions involving vulnerable users.

- 3.3.8 There is no identifiable pattern of collisions occurring associated with pedestrians and pedal cyclists. It is considered that traffic associated with the development will not have a foreseeable adverse impact on route safety conditions.

3.4 Summary

- 3.4.1 The wider development site is currently occupied by a residential property called Broadlees which is surrounded by grazing land and scrub, in addition to several outbuildings and sheds. The existing site access is taken from Dapper's Lane which runs on a north / south alignment bordering the site to the west.
- 3.4.2 Dapper's Lane is a two-way, single carriageway road, generally 6.0 metres wide and subject to a 30 mph speed limit in the vicinity of the site. No pedestrian footway is currently provided along Dapper's Lane. Pedestrian footway improvement works along Dapper's Lane between the site access and Water Lane linked to extant consent A/27/16/PL, will provide a continuous pedestrian link to Angmering village centre and nearby bus stops.
- 3.4.3 Water Lane is a two-way, single carriageway road, generally 7.0 metres wide and subject to a 30 mph speed limit in the vicinity of the site. At a distance of approximately 200 metres to the east of the junction with Dapper's Lane, the registered speed limit changes from 30 mph to 60mph.
- 3.4.4 Footways with street lighting are provided along Water Lane from the Dapper's Lane junction providing a continuous route into the village centre and to nearby bus stops.
- 3.4.5 A review of collision data for the local highway network demonstrates that there is no identifiable pattern of collisions occurring associated with pedestrians and pedal cyclists. It is considered that traffic associated with the development will not have a foreseeable adverse impact on route safety conditions.

4 PROPOSED DEVELOPMENT

4.1 Development Overview

- 4.1.1 The development proposals comprise the provision of a 70 bed Care Home.
- 4.1.2 Vehicular, pedestrian and cycle access to the development will be taken from an existing access with Dapper's Lane. It is proposed to modify the access road junction to accommodate the turning manoeuvres associated with delivery and servicing vehicles.
- 4.1.3 Delivery and servicing at the development is proposed to take place on-site, with service and delivery vehicles accessing and exiting the site in a forward gear.

4.2 Vehicular Access

- 4.2.1 The proposed development site access will be formed from the existing site access located on Dapper's Lane, north of Water Lane. The existing priority junction location will provide access to the Care Home and will utilise the existing vehicular access with the residential property of Broadlees. The proposed site access will be widened to 6 metres in order to accommodate two-way vehicle movements and allow for the turning manoeuvres of a large refuse vehicle.
- 4.2.2 A turning head will be provided to the eastern side of the Care Home to enable delivery and servicing vehicles to turn on-site.
- 4.2.3 The proposed vehicle access has previously received planning consent in association with planning application A/27/16/PL for a development consisting of 53No. Care apartments (C2 land use). It is proposed that the access for the proposed development would be provided in the same form.
- 4.2.4 The vehicular access proposals were subject to a Stage 1 Road Safety Audit (RSA1) in association with planning application A/27/16/PL. The RSA1 identified a number of minor issues and subsequent recommendations that were addressed by the designer and incorporated into the proposed access design. The RSA1 report and designers response can be found in **Appendix D**.
- 4.2.5 Swept path analysis of the proposed access arrangements has been carried out and is provided in **Appendix E**. The swept path analysis demonstrates that a 10.2m refuse vehicle and a 10m rigid vehicle are able to access and egress the site in a forward gear.

4.3 Visibility

- 4.3.1 Visibility at the proposed access has been assessed with respect to the requirements outlined in Manual for Streets, in relation to stopping sight distances for roads operating under a 30mph speed limit. The MfS design guidance states that an 'X' distance of 2.4m is required when assessing visibility at a junction on a residential road.

- 4.3.2 MfS visibility splay standards require a 'Y' distance of 43m for a road with a speed limit of 30mph. A visibility splay with an 'X' distance of 2.4m and a 'Y' distance of 43m is achievable at the proposed site access. Planting within the visibility splays will be restricted to ensure that the visibility splay would not be obstructed at a point 600 mm above the carriageway in accordance with Manual for Streets guidance.
- 4.3.3 Drawing **PB7724-SK05**, provided in **Appendix F**, confirms that a visibility splay of 2.4m x 43m is achievable in both directions at the proposed site access.
- 4.3.4 A line of trees fall within the visibility splay to the rear of the visibility splay. Manual for Streets (MfS) identifies the impact of obstacles, such as street trees and lighting columns, indicating that this does not mean the access becomes unacceptable.
- 4.3.5 In this case, the vegetation has a minor impact to the rear of the visibility splay only. MfS also suggests that in lightly trafficked situations, a 2 metre x-distance can be applied. In this case **Section 5** of this report identifies three and six vehicle departures in the weekday morning and evening peak hours respectively indicating that this will be a lightly trafficked access. The 2.0m x 43m visibility splay is illustrated in **PB7724-SK05** provided in **Appendix F**.
- 4.3.6 The achievable visibility splays at the proposed site access have previously been agreed in association with planning application A/27/16/PL and as such the visibility splay at the proposed site access is considered to be appropriate.

4.4 Pedestrian / Cycle Access

- 4.4.1 It is proposed that a new pedestrian footway, 2.0m in width, would be constructed along Dapper's Lane. A pedestrian and cycle access would be taken from this new pedestrian footway along Dapper's Lane.
- 4.4.2 The access would be provided approximately 10m to the south of the proposed vehicular access on Dapper's Lane. A 2.0m footpath would be provided and would form an access through the site to the main Care Home building access. Additionally, the footpath would offer a route to the proposed cycle parking located to the west of the Care Home manager's office.

4.5 Car Parking Provision

- 4.5.1 The proposed site layout indicates that vehicular access to the Care Home will be provided from the existing site access. The proposed site layout indicates 27 car parking spaces at a ratio of 0.39 spaces per bedroom.
- 4.5.2 A review of the Arun District Council (ADC) parking standards has been undertaken and for C2 Care Home developments the following maximum car parking standards apply:
- 1 car space for every 20 residents or increment of up to 20 residents.
 - 1 car space for visitors at the ratio of 1 space for 8 residents or increments of up to 8 residents.
 - Additional car space for staff based on a rate of 1 space per 5 residents (all to be provided within the layout near to dwellings).
 - Space for service vehicles as required.

- 4.5.3 Based upon the defined parking standards, a maximum parking provision of 27 spaces is permitted. The development proposals would provide a total of 27 parking spaces and as such the parking provision is in line with ADC parking standards.
- 4.5.4 Furthermore, the ADC parking standards indicate that two of the parking spaces will need to be allocated as disabled spaces and a further one motorcycle space will be required.
- 4.5.5 Two disabled parking spaces are to be provided on the Site, situated adjacent to the drop-off point and pedestrian access to the Care Home development. The locations of these are shown on the architect's plan drawing provided in **Appendix G**.
- 4.5.6 Swept path analysis of a large car has been undertaken to demonstrate that all parking bays are accessible. This is presented in drawing **PB7724-TR01** within **Appendix E**.

4.6 Cycle Parking Provision

- 4.6.1 The required provision of cycle parking is set out within Appendix 2 of the Arun District Council Local Plan (Adopted 2003). The requirement for cycle parking is as follows:

"Associated with any car parking provision, appropriate facilities and/or a suitable area should be provided for the parking of bicycles. Provision shall be at the rate of:

1 cycle space per 8 car parking spaces, subject to a minimum of 2 cycle spaces."

- 4.6.2 A minimum of four secure covered cycle parking spaces would therefore be provided on-site. The cycle parking is located in a convenient location in close proximity to the building's entrance, benefiting from passive surveillance and weather protection. Steel Sheffield stands will be fixed to the ground enabling cycles to be supported and securely locked.

4.7 Off-Site Mitigation Measures

- 4.7.1 Following a review of the consented application A/27/16/PL, planning permission was granted subject to compliance with conditions which included the following:

"No part of the development shall be occupied until the footway has been extended along Dapper's Lane into the development, including where this crosses the highway onto Water Lane in accordance with plans and details submitted to and approved in writing by the Local Planning Authority.

Reason: In the interests of highway safety in accordance with policy GEN7 of the Arun District Local Plan".

- 4.7.2 It is proposed that a pedestrian footway measuring 2.0 metres in width will be created from the site access along the eastern side of Dapper's Lane, utilising existing grass verge and within the public highway. The footway would extend approximately 75m to the south of the vehicular access, at which point an informal pedestrian crossing with tactile paving and dropped kerbs would be provided. The footway would then continue along the western side of Dapper's Lane, along the existing grass verge, connecting with the existing footway at the junction with Water Lane.

- 4.7.3 The proposed pedestrian infrastructure improvements are detailed within the plan **PB7693-SK01** provided in **Appendix H**. This proposed off-site pedestrian infrastructure improvement would ensure that a continuous pedestrian footway will connect the site to Angmering Village Centre.
- 4.7.4 The approved pedestrian improvement works will be implemented as part of the wider permission (A/27/16/PL) and are not directly linked with this application for the care home building only.

4.8 Delivery and Servicing

- 4.8.1 Information relating to how delivery and service vehicles would access and serve the site and how deliveries would be managed is detailed within section 7 of this report.

4.9 Summary

- 4.9.1 The development proposals comprise the provision of a 70 bed Care Home, with ancillary car parking, access and landscaping. Delivery and servicing at the development is proposed to take place on-site, with service and delivery vehicles accessing and exiting the site in a forward gear.
- 4.9.2 Bin stores are to be located in close proximity to the eastern side of the proposed Care Home building in close proximity to the proposed kitchen.
- 4.9.3 The proposed site access accords to the Manual for Streets (MfS) visibility splay guidance of 2.0 metres by 43 metres in relation to a design speed of 30mph. This can be considered appropriate for Dapper's Lane which operates under a 30mph speed limit within the vicinity of the site.
- 4.9.4 Drawing **PB7724-SK05**, provided in **Appendix F**, illustrates visibility splay from the site access. The visibility slays at the proposed site access have previously been agreed within the consented planning application A/27/16/PL.
- 4.9.5 The development will provide a total of 27 car parking spaces at a ratio of 0.39 spaces per resident, of which three will be accessible spaces. A total of four secure cycle parking spaces will be provided.

5 TRIP GENERATION

5.1 Existing Traffic Generation

- 5.1.1 The site was granted outline planning permission for 53 Care Apartments in February 2017 (A/27/16/PL).
- 5.1.2 The existing site consists of a residential dwelling and associated outbuildings. The site is currently vacant and for the purposes of this assessment, traffic generation associated with the extant use has not been apportioned in calculating the net traffic impact of the proposed development.

5.2 Proposed Care Home Trip Generation

5.3 Background

- 5.3.1 In order to understand the likely trip generation of the development proposals, a robust assessment of the forecast multi-modal trip generation has been undertaken in relation to the Care Home development. This has been carried out using the TRICS v7.3.4 database.

5.4 Care Home

- 5.4.1 The TRICS database has been interrogated to establish the average multi-modal trip rates for the proposed 70 bed Care Home. The following selection criteria have been adhered to:
- Land Use Class 05F Health Care Home (Elderly Residential).
 - Exclusion of sites in Ireland, Scotland, Wales and Greater London.
 - Sites with between 17 and 180 bedrooms.
 - Sites in Edge of Town and Suburban locations.
- 5.4.2 The full TRICS output report is provided in **Appendix I** of this Transport Assessment. The multi-modal trip rates for the Care Home are shown in **Table 5.1**.

Table 5.1: Multi-Modal Trip Rates for Care Home Proposals

Mode of Travel	AM Peak (06:00-09:00)		PM Peak (17:00-18:00)		Daily (07:00-21:00)		
	Arrivals	Depart's	Arrivals	Depart's	Arrivals	Depart's	Two-Way
Vehicles	0.064	0.045	0.023	0.082	0.537	0.518	1.055
Public Transport Users	0.014	0.014	0.005	0.000	0.033	0.056	0.139
Pedestrians	0.009	0.014	0.009	0.023	0.196	0.205	0.401
Cyclists	0.000	0.000	0.000	0.000	0.010	0.010	0.020

- 5.4.3 The resultant forecast multi-modal trip generation for the AM and PM peak periods and on a daily basis is shown in **Table 5.2**.

Table 5.2: Estimated Trip Generation for Care Home Proposals (70 Bedrooms)

Mode of Travel	AM Peak (08.00-09.00)		PM Peak (17.00-18.00)		Daily (07.00-21.00)		
	Arrivals	Depart's	Arrivals	Depart's	Arrivals	Depart's	Two-Way
Vehicles	4	1	2	6	41	43	84
Public Transport Users	1	1	0	0	6	4	10
Pedestrians	1	1	1	2	14	14	28
Cyclists	0	0	0	0	1	1	2

- 5.4.4 Over the course of a 12-hour day, a two-way total of 84 vehicle movements to / from the Care Home are predicted; 41 arrivals and 43 departures.

5.5 Traffic Impact

- 5.5.1 The trip generation presented in **Table 5.2** above indicates that a maximum of **eight two-way** vehicle movements to and from the site can be expected along Dapper's Lane during the weekday PM Peak hour. This equates to one vehicle within a seven and a half minute period along Dapper's Lane during the peak hour periods.
- 5.5.2 The daily traffic generation associated with the extant consent for 53 care apartments resulted in a two-way daily total of 82 vehicle movements. It can therefore be concluded that the proposed development will not have a material impact upon the operation of the local highway network and result in a marginally higher (2 two-way vehicle trips) level of daily vehicular traffic when compared to the extant consent.

5.6 Consented Development Trip Rates

- 5.6.1 As noted above, the site received planning consent (planning reference A/27/16/PL) for the erection of 53No. Care apartments (land use C2). The trip rates and trip generation associated with the planning application are presented in Error! Reference source not found..

Table 5.3: Consented Development Trip Rates

Time Period	Trip Rates (per 100 sqm)			Trips (vehicles)		
	Arr.	Dep.	Two-Way	Arr.	Dep.	Two-Way
Weekday AM Peak Hour (08.15 to 09.15 Hours)	0.102	0.060	0.162	5	3	9
Weekday PM Peak Hour (17.00 to 18.00 Hours)	0.032	0.074	0.106	2	4	6
Typical Weekday (07.00 to 19.00 Hours)	0.783	0.769	1.552	41	41	82

- 5.6.2 The net increase in vehicular trips for the proposed development compared to those associated with the consented scheme, are shown in Error! Reference source not found. overleaf.

Table 5.4: Net Trip Generation - Proposed Compared to Consented

Mode of Travel	AM Peak (08.00-09.00)		PM Peak (17.00-18.00)		Daily (07.00-21.00)		
	Arrivals	Depart's	Arrivals	Depart's	Arrivals	Depart's	Two-Way
Vehicles	-1	-2	0	+2	-1	+3	+2

- 5.6.3 Error! Reference source not found. indicates that the proposed development would result in a minor reduction (3 fewer two-way trips) in the number of weekday AM Peak vehicular trips, with a minor increase of 2 two-way vehicular trips during the weekday PM Peak when compared to those of the consented scheme. Over the course of a day (07:00 to 21:00) it is anticipated that the proposed development would result in a net increase of 2 two-way vehicular trips.
- 5.6.4 A reduction in the number of pro-rata vehicular trips at the proposed development would be expected. Residents within a residential Care Home would not be anticipated to own a car and would not be expected to travel regularly. Residents of C2 care apartments are anticipated to have a greater level of independence and would be more likely to own a car, and as such would be expected to represent a higher travel demand.

5.7 Car Parking Assessment

- 5.7.1 In order to establish whether the level of car parking provision is sufficient to cater for the demands of the site, a car parking accumulation assessment has been undertaken. **Table 5.5** details the parking accumulation, as calculated from arrival / departure data using the TRICS data described above.

Table 5.5: Car Parking Assessment (27 spaces)

Time Period	Arrivals	Departures	Occupied Spaces	% Occupied
Initial	-	-	8	30%
07:00-08:00	8	3	13	48%
08:00-09:00	4	1	16	60%
09:00-10:00	2	2	17	62%
10:00-11:00	4	2	19	70%
11:00-12:00	4	3	20	76%
12:00-13:00	2	4	19	71%
13:00-14:00	2	2	19	70%
14:00-15:00	3	3	18	67%
15:00-16:00	1	3	17	63%
16:00-17:00	3	4	16	60%
17:00-18:00	2	6	12	45%
18:00-19:00	3	5	9	35%
19:00-20:00	2	3	9	32%
20:00-21:00	1	4	6	22%

- 5.7.2 As shown by **Table 5.3**, the proposed car parking provision of 27 spaces is sufficient to cater for the demands of the site. The number of spaces occupied at the start of the assessment has assumed that 8 of the Care Home spaces are occupied overnight. This is anticipated due to the 24 hour on-site nursing and dementia care and subsequent staff shift patterns.
- 5.7.3 The maximum parking accumulation for the development is expected to occur between 11:00 and 12:00 when 20 spaces would be occupied. This equates to an anticipated maximum level of parking occupancy of 76%.

- 5.7.4 The car parking accumulation demonstrates that a maximum of 20 parked vehicles would be anticipated during typical peak demand periods. The total provision is sufficient to accommodate additional demand over and above the recognised typical peak, such as that occurring during shift changeover times. This is due to the fact that staff arriving to start their shift will arrive before other staff who are finishing their shift have departed.
- 5.7.5 The above analysis is considered to be a reasonable forecast for the purposes of this study as the sites assessed in TRICS also have staff shifts similar to that of the proposed scheme. The parking provision associated with the care home is sufficient and appropriate to meet the anticipated parking demand. The residual parking associated with the wider consented permission is sufficient to provide parking for the care apartments at an appropriate parking ratio which accords to Arun District Council parking standards.

5.8 Summary

- 5.8.1 In order to understand the likely trip generation of the development proposals, a robust assessment of the forecast multi-modal trip generation has been undertaken using the TRICS v7.5.1 database.
- 5.8.2 The trip generation indicates that a maximum of eight two-way vehicle movements to and from the site can be expected along Dapper's Lane during the weekday PM Peak hour. The proposed development will not have a material impact upon the operation of the local highway network.
- 5.8.3 The maximum parking accumulation for the development is expected to occur between 11:00 and 12:00 when 20 spaces would be occupied. The parking accumulation assessment demonstrates that during the busiest period of the day, there would be seven available parking spaces.
- 5.8.4 As such the provision of 27 car parking spaces is considered adequate to meet the anticipated parking demand.
- 5.8.5 The anticipated trip generation has been compared to the trip generation of the previously consented scheme at the site (planning reference A/27/16/PL). It has been shown that the proposed development would result in a maximum increase of two vehicular trips over the period of a typical weekday.

6 POLICY

6.1 National Planning Policy Framework

6.1.1 The National Planning Policy Framework (NPPF) was published in March 2012 by the Department for Communities and local Government and is now the primary source of national planning guidance in England.

6.1.2 The NPPF contains the Coalition Government's strategies for economic, environmental and social planning policies in England and it is designed to be a single, tightly focused document.

6.1.3 At the heart of the NPPF is a "*presumption in favour of sustainable development*", which for decision making means:

- Approving development proposals that accord with the development plan without delay; and
- Where the development plan is absent, silent or relevant policies are out of date, granting permission unless:
 - Any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in the NPPF taken as a whole; or
 - Specific policies in the NPPF indicate the development should be restricted.

6.1.4 In terms of transport the NPPF states; "*All developments that generate significant amounts of movement should be supported by a Transport Assessment or Transport Statement. Plans and decisions should take account of whether:*

The opportunities for sustainable transport modes have been taken up depending on the nature and location of the site, to reduce the need for major transport infrastructure;

Safe and suitable access to the site can be achieved for all people; and

Improvements can be undertaken within the transport network that could effectively limit the significant impacts of the development. Development should only be prevented or refused on transport grounds where the residential cumulative impacts of the development are severe."

6.1.5 It is noted that a draft revised NPPF was issued for consultation in March 2018 by the Ministry of Housing, Communities and Local Government. It is not expected that this will materially affect transport policy.

6.2 Regional Planning Policy

West Sussex Transport Plan 2011-2026

6.2.1 The West Sussex Transport Plan 2011-26 (LTP3) was adopted in 2011. The LTP3 sets out the transport policies and strategies for West Sussex County Council (WSCC) from 2011 to 2026. The overall strategy of the LTP3 aims to create an efficient, safe and less congested transport network.

6.2.2 The LTP3 will contribute towards:

- a more competitive and thriving economy
- reductions in emissions
- improved access to services
- jobs and housing
- improved quality of life for all those who live and work within the County

6.2.3 Key themes of the WSCC LTP3 are as follows:

Theme 1: Promotion of economic growth:

- Maintaining and improving journey times and reliability of key routes;
- Improve transport in order to support sustainable growth;
- Ensure the local transport network is capable to endure shocks and impacts including impacts relating to climate change.

Theme 2: Reducing emissions through:

- Promotion of low emissions fuels and technologies;
- Reduction in WSCCs carbon footprint
- Reducing the need to travel through the promotion of local services
- Promoting sustainable modes of transport and reducing unnecessary trips via motorised vehicles.

Theme 3: Providing access to services, employment & housing;

- Identify problem areas by using survey approaches and accessibility mapping techniques where appropriate
- Work in partnership with service providers and stakeholders to set priorities
- Ensure that accessibility is a central consideration when planning local services

Theme 4: Improving safety, security & health

- Reduce the risk of death or injury due to transport incidents through engineering, training and publicity particularly targeted at vulnerable road users
- Reduce crime, fear of crime and anti-social behaviour on the transport network
- Reduce the negative impacts of transport on public health
- To encourage and enable physically active travel such as walking and cycling through behaviour change initiatives and provision of information and education

- Invest in new infrastructure which improves the County and creates safer conditions for all, and particularly vulnerable road users.

6.2.4 The LTP3 provides an Implementation Plan which provides specific information relating to the area covered by the Arun District Council. The LTP3 states that all new developments within the Arun District should contribute to the following in some way:

- *"Increasing the use of sustainable modes of transport*
- *Improving network efficiency in order to improve journey times and air quality*
- *Improving safety for all road users*
- *Discouraging HGVs from using unsuitable roads*
- *Improving accessibility between communities within the District"*

6.2.5 In addition, the implementation plan requires that new development meets the following aims:

- *"All new development should be designed to promote 'local living', for example shops, jobs and homes all being within easy reach of each other.*
- *All new development should provide enough secure cycle parking to meet the needs of the development and be within close proximity to public transport.*
- *Safeguarding against traffic generated by new development resulting in the capacity of the highway network being exceeded, by including measures to encourage sustainable travel behaviour.*
- *Encouraging sustainable travel by improving the existing cycle and pedestrian network through improved signing, connecting routes where appropriate and repairing and maintaining surfaces.*
- *Improving pedestrian accessibility throughout the District by enhancing existing pedestrian crossings, and providing new pedestrian crossing facilities at identified key locations."*

6.2.6 The proposed development would be in line with the key themes of the LTP3 and the Implementation Plan for the Arun District. The proposed development would promote 'local living' being located in close proximity to a large area of residential development and providing jobs to the area.

6.2.7 Cycle parking would be provided in line with the ADC cycle parking standards and a new pedestrian footway would be constructed from the site to the junction with Water Lane along Dapper's Lane. The new pedestrian infrastructure would encourage trips to the development to be undertaken by sustainable modes.

6.2.8 The footway proposals would include suitable crossings and would improve safety for pedestrians using Dapper's Lane. The footway proposals would improve the local pedestrian network benefiting surrounding development as well as serving the site.

6.2.9 The proposed development can therefore be considered to be in line with the WSCC LTP3 and the aims set out for the District of Arun.

6.3 Local Planning Policy

Arun District Council Local Plan 2003

- 6.3.1 The Arun District Council Local Plan (LP) sets policies to guide development throughout the district. The Local Plan sets out a number of policies with regards to new development and transport considerations.
- 6.3.2 Policy GEN4 Location and Travel Demand sets out the key considerations with regards to transport. The policy states that planning permission will be granted for new development if the development meets the following criteria:
- (i) *"it is located to minimise the demand for travel;*
 - (ii) *it does not materially add to the existing road congestion and air pollution; and*
 - (iii) *appropriate provision is made for safe and convenient access by public transport, cyclists and pedestrian"*
- 6.3.3 The proposed development accords with the requirements set out within Policy GEN4. The proposals would provide jobs located close to a large area of residential dwellings, thus reducing the need to travel for staff. **Section 5** of this report has demonstrated that the proposed development would not have a material impact on the operation of the local highway network and a new section of footway is proposed to improve pedestrian connections. An adequate provision of cycle parking will also be provided.
- 6.3.4 Policy GEN7 indicates that the following must be met for a development to be permitted:
- (iv) *"promotes sustainable development, including the effective use and conservation of energy and reducing the need to travel, particularly by private car;*
 - (v) *allows for the safe movement of pedestrians and vehicles, giving priority to pedestrians;*
 - (vi) *provides for vehicle parking in accordance with Policy GEN12 and Appendix 2."*
- 6.3.5 The development proposals would include a new section of pedestrian footway along Dapper's Lane and appropriate cycle parking would be provided on-site. The proposals would therefore improve the existing transport network and encourage the use of sustainable modes of transport. Parking within the development is proposed to be provided in line with Policy GEN12 and Appendix 2 of the LP.
- 6.3.6 The LP provides guidance on the level car parking associated with new development within Policy GEN12 and Appendix 2. The site is not located within an area considered to be suitable for a reduction in the parking standards and as such the following maximum car parking standards apply:
- 1 car space for every 20 residents or increment of up to 20 residents.
 - 1 car space for visitors at the ratio of 1 space for 8 residents or increments of up to 8 residents.

- Additional car space for staff based on a rate of 1 space per 5 residents (all to be provided within the layout near to dwellings)
- Space for service vehicles as required

The LP also requires new developments to consider the provision of infrastructure associated with walking and cycling. This is set out within Policy GEN15 Cycling and Walking which states:

"The Council will continue to work with West Sussex County Council and others to encourage and support the development of safe cycle and footpath networks. Where appropriate, new development will be required to provide safe and attractive facilities for cyclists and pedestrians, both within the site and in the form of links to the surrounding area."

- 6.3.7 The proposed development would provide safe and secure cycle parking on-site. Footpaths measuring 2.0m in width would lead pedestrians from the site access to the main entrance of the Care Home building. It is proposed that a new section of pedestrian footway would be created along Dapper's Lane connecting the site to the wider pedestrian network. The development proposals therefore accord with Policy GEN15.

Arun District Council Emerging Local Plan

- 6.3.8 The Emerging Local Plan will replace the existing LP and is currently undergoing consultation. It is anticipated that the final Inspector's Report will be provided in early July 2018. The transport related policies set out within the Emerging Local Plan are discussed below.
- 6.3.9 Policy T SP1 states that the council will support development which:
- "Is designed to reduce the need to travel by car by identifying opportunities to improve access to public transport services and passenger transport services whilst making provision for safe access to the highway network through improvements to existing road network and the promotion of vehicles which use low-carbon energy;*
 - Is incorporated into the District's green infrastructure network and gives priority to pedestrian and cycle movements;*
 - Protects committed and indicative lines of major road schemes from development and, where applicable, contributes towards new road schemes which improve north-south links between Bognor Regis and Littlehampton and the A27, to ensure that they are delivered in line with strategic growth in the District;*
 - Incorporates appropriate levels of parking in line with West Sussex County Council Guidance on parking provision and the forthcoming Arun Design Guide taking into consideration the impact of development upon on-street parking and;*
 - Is supported by an effective and deliverable Transport Assessment which demonstrates that the transport effects of the development on the local and strategic road network can be satisfactorily mitigated and a Travel Plan, which is effective and deliverable and;*

(vi) *Explains how the development has been designed to:*

- i. Accommodate the efficient delivery of goods and supplies;*
- ii. Give priority to pedestrian and cycle movements and have access to high quality public transport facilities;*
- iii. Create safe and secure layouts for traffic, cyclists and pedestrians whilst avoiding street clutter;*
- iv. Incorporate facilities for charging electric and plug-in Hybrid vehicles (where charging facilities are to be omitted from the development, evidence of market demand and viability must be provided); and*
- v. Consider the need of people with disabilities by all modes of transport."*

6.3.10 Policy T DM1 requires that proposals for all new developments must:

- a) "Be located within easy access of established public transport service(s), existing pedestrian and cycle networks, the committed and aspirational cycle networks as identified on the Policies Map and the green infrastructure network which links the development with key destinations including places of work, education, leisure and town centres;*
- b) Where applicable, contribute to the extension of public transport services to serve the development and community transport services to ensure that a wide range of transport services are available to all residents;*
- c) Make provision for cycling and pedestrian facilities to meet the County Council Parking Standards, including cycle storage, convenient and secure cycle parking in association with retail and educational uses and sufficient secure parking and changing/showering facilities at places of work;*
- d) Contribute towards the provision of a joined up cycle network and Public Rights of Way network, taking into account the aspirational cycle network, which provides convenient, accessible, safe, comfortable and attractive routes for pedestrians and cyclists and; where appropriate, horse riders, both within the development and in the form of links between the development and:*
 - i. Places of work, education, leisure and food retail;*
 - ii. The South Downs National Park;*
 - iii. Along the coast particularly between Bognor Regis and Littlehampton;*
 - iv. Along the coast to Chichester;*
 - v. Bognor Regis to Arundel and;*
 - vi. Littlehampton to Goring."*

- 6.3.11 It is considered that the proposed development would accord to the transport policies set out within the Emerging Local Plan.

6.4 Summary

- 6.4.1 The proposed development accords to local, regional and national planning policy guidance. The TA has been undertaken in compliance with NPPF objectives and in line with the requirements as set out within the West Sussex County Council Transport Plan and the Arun District Council Local Plan.

7 OUTLINE DELIVERY & SERVICING STRATEGY

7.1 Delivery and Servicing

7.1.1 Delivery and servicing for the proposed Care Home will take place off-street within the curtilage of the site from the proposed access junction with Dapper's Lane.

7.1.2 Delivery and servicing vehicles will access and egress the site via Dapper's Lane in a forward gear. This is demonstrated within the swept path analysis drawings contained within **Appendix E**.

7.1.3 Bin stores are to be located to the north-west corner of the proposed building and are located in close proximity to the proposed kitchen area. The bin stores are also conveniently located for access from the proposed refuse collection point.

7.1.4 The bin stores are in accordance with Manual for Streets guidance which states:

- *residents should not be required to carry waste more than 30 m (excluding any vertical distance) to the storage point;*
- *waste collection vehicles should be able to get to within 25 m of the storage point (note, BS 5906: 200518 recommends shorter distances) and the gradient between the two should not exceed 1:12. There should be a maximum of three steps for waste containers up to 250 litres, and none when larger containers are used (the Health and Safety Executive recommends that, ideally, there should be no steps to negotiate); and*
- *the collection point should be reasonably accessible for vehicles typically used by the waste collection authority.*
- *BS 5906: 2005 provides guidance and recommendations on good practice. The standard advises on dealing with typical weekly waste and recommends that the distance over which containers are transported by collectors should not normally exceed 15 m for two-wheeled containers, and 10 m for four-wheeled containers.*

7.1.5 Vehicle swept path analysis has been undertaken to demonstrate the proposed vehicle movements and is presented in **Appendix E**. Swept path analysis has been carried out for the following vehicles:

- 10.2m Refuse Vehicle
- 10m Rigid Vehicle

7.2 Service Vehicle Trip Generation

7.2.1 The number of service vehicle trips to and from the site has been calculated using the TRICS v.7.5.1 database based upon the operation of a Care Home of 70 bedrooms. The same sites as those used in the Care Home trip generation in **Section 5.3** have been used in the assessment. The resulting service vehicle trip generation is presented in **Table 7.1**.

Table 7.1: Service Vehicle Trip Generation

Time Range	Arrivals		Departures		Two-way	
	Trip Rate	No. of trips	Trip Rate	No. of trips	Trip Rate	No. of trips
07:00-08:00	0.009	1	0.009	1	0.018	2
08:00-09:00	0	0	0	0	0	0
09:00-10:00	0	0	0	0	0	0
10:00-11:00	0.005	0	0	0	0.005	0
11:00-12:00	0.009	1	0.005	0	0.014	1
12:00-13:00	0	0	0.009	1	0.009	1
13:00-14:00	0	0	0	0	0	0
14:00-15:00	0	0	0	0	0	0
15:00-16:00	0	0	0	0	0	0
16:00-17:00	0	0	0	0	0	0
17:00-18:00	0	0	0	0	0	0
18:00-19:00	0	0	0	0	0	0
19:00-20:00	0	0	0	0	0	0
20:00-21:00	0	0	0	0	0	0
Total	0.023	2	0.023	2	0.046	4

- 7.2.2 The service vehicle trip generation indicates that there is anticipated to be no greater than one service/delivery vehicle arrival and one departure trip occurring during any hour of the day. The development proposals for on-site servicing will therefore not result in a material impact on the operation of the highway network.

7.3 Type of Deliveries

- 7.3.1 Deliveries to the site will involve the following:

- Bread;
- Milk; and
- Local produce (sourced locally);

- 7.3.2 Bread, milk and local produce will require daily deliveries to the service delivery yard located within close proximity of the kitchen. It is anticipated that deliveries would typically be undertaken by transit vans or a 3.5t box van.
- 7.3.3 Laundry will be undertaken in-house and will subsequently not generate any service vehicle trips.
- 7.3.4 Refuse collection will be undertaken on a weekly basis by a 10.2m council refuse vehicle.

7.4 Management of Deliveries

- 7.4.1 Deliveries will be scheduled and managed by an on-site representative such as the Care Home Facilities Manager. In the unlikely event of two delivery vehicles arriving at the site within the same time period, there is sufficient turning and manoeuvring space within the carpark and delivery bay area to ensure that deliveries and servicing vehicle trips can be managed and processed efficiently in a timely manner.

7.5 Summary

- 7.5.1 The development will generate up to four two-way delivery and service vehicle movements per day. It is anticipated that this will typically comprise transit van and 3.5t box van vehicle trips. Deliveries will be scheduled and managed by an on-site representative within the Care Home.

8 SUMMARY AND CONCLUSION

8.1 Summary

- 8.1.1 This Transport Assessment (TA) has been produced by Royal HaskoningDHV (RHDHV), on behalf of Frontier Estates Limited, in association with a planning application for a proposed circa 40 car apartments and a 70 bed Care Home.
- 8.1.2 The site is located to the east of Dapper's Lane, Angmering, West Sussex. The site is located approximately 600 metres north of centre of Angmering Village Centre.
- 8.1.3 The site is well located in relation to the ability to walk and cycle from the Site to the village centre. There are continuous footways from Water Lane to Angmering Village Centre, which is located to the south of the development access. This route provides access to a number of shops, a pharmacy, cafes and restaurants. This is reflected in the 2011 Census data which indicates that active travel modes (walking and cycling) represent a total of 12% of all journeys to work.
- 8.1.4 An hourly bus services providing links to Littlehampton and Shoreham is located within a 160m walk distance from the site. Angmering Station is located 2km walk distance south of the site, providing regular services to Brighton, London Victoria, Portsmouth Harbour, Southampton Central and Littlehampton. In summary, the site is accessible to non-car modes.
- 8.1.5 Dapper's Lane is a two-way, single carriageway road, generally 6.0 metres wide and subject to a 30 mph speed limit in the vicinity of the site.
- 8.1.6 A review of collision data for the local highway network demonstrates that there is no identifiable pattern of collisions occurring associated with pedestrians and pedal cyclists. It is considered that traffic associated with the development will not have a foreseeable adverse impact on route safety conditions.
- 8.1.7 Delivery and servicing at the development is proposed to take place on-site, with service and delivery vehicles accessing and exiting the site in a forward gear.
- 8.1.8 The proposed site access accords to the Manual for Streets (MfS) visibility splay guidance of 2.4 metres by 43 metres in relation to a design speed of 30mph.
- 8.1.9 Pedestrian access to the site will be taken from this footway with an internal 2.0m wide footway leading through the site to the main entrance to the Care Home building and the proposed cycle parking. Pedestrian footway improvement works along Dapper's Lane between the site access and Water Lane linked to extant consent A/27/16/PL, will provide a continuous pedestrian link to/Angmering village centre and nearby bus stops.
- 8.1.10 The development will provide a total of 27 car parking spaces at a ratio of 0.39 spaces per resident, of which three will be accessible spaces. A total of four secure cycle parking spaces will be provided.

- 8.1.11 The anticipated trip generation has been compared to the trip generation of the previously consented scheme at the site (planning reference A/27/16/PL). It has been shown that the proposed development would result in a maximum increase of two vehicular trips over the period of a typical weekday. The proposed development will not have a material impact upon the operation of the local highway network.
- 8.1.12 The maximum parking accumulation for the development is expected to occur between 11:00 and 12:00 when 20 spaces would be occupied. The parking accumulation assessment demonstrates that during the busiest period of the day, there would be seven available parking spaces.
- 8.1.13 The proposed development accords to local, regional and national planning policy guidance. The TA has been undertaken in compliance with NPPF objectives and in line with the requirements as set out within the West Sussex County Council Transport Plan and the Arun District Council Local Plan.
- 8.1.14 The development will generate up to four two-way delivery and service vehicle movements per day. It is anticipated that this will typically comprise transit van and 3.5t box van vehicle trips. Deliveries will be scheduled and managed by an on-site representative within the Care Home.

8.2 Conclusion

- 8.2.1 The National Planning Policy Framework (NPPF) set out the Government's planning policies for England and identifies that '*Development should only be prevented or refused on transport ground where the residual cumulative impacts of development are severe*'. In accordance with the NPPF it has been demonstrated that the travel demand of the proposed development does not represent a severe residual transport impact.
- 8.2.2 Furthermore, the good level of accessibility to non-car modes of transport and the proximity of the development to Angmering Town Centre and essential amenities indicate that there is no policy justification to refuse the application on transport or highway grounds.

Appendix A – Walk Isochrone Plan

Appendix B – Cycle Isochrone Plan

Appendix C – Collision Data and Study Area

Appendix D – Consented Scheme Stage 1 Road Safety Audit

Appendix E – Vehicle Swept Path Analysis

Appendix F – Proposed Site Access Visibility Splays

Appendix G – Architects Layout Plan

Appendix H – Proposed Pedestrian Infrastructure Improvements

Appendix I – TRICS Output